# Urban and Community Forests

## Background

Street trees, small forested areas, trees in municipal parks and playgrounds, and trees along highways and right-of-ways constitute New Jersey's "urban and community forests." They provide a variety of benefits such as reducing air pollution, providing habitat and food for wildlife, lowering nearby energy consumption by providing shade, controlling soil erosion and sedimentation, mitigating effects of storm runoff, and making communities aesthetically pleasing places in which to live and work.

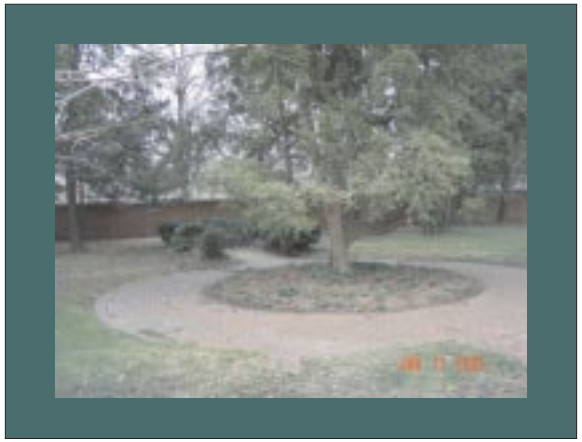
According to NASA satellite imagery, average temperatures in cities and urban areas can be five to 10 degrees Fahrenheit warmer than surrounding areas. An EPA study has shown that summer surface temperatures in Newark are on average 10.6 degrees Fahrenheit higher than suburban surface temperatures. This "urban heat island effect" happens where man-made materials, such as buildings and asphalt, absorb much of the sun's energy and create a dome of elevated air temperatures over cities. Further, urban heat islands contribute to an increase in smog production, a critical environmental air quality problem impacting public health, particularly causing respiratory problems in children and seniors.

Planting trees in cities experiencing heat island effects can effectively cool the urban environment by six to 10 degrees Fahrenheit. New Jersey is currently pursuing this approach through a Cool Cities Initiative covering the cities of Trenton, Paterson, Newark, Elizabeth, Orange, Union and Passaic. The goal is to plant 100,000 trees in these cities' neighborhoods. Other DEP programs in community forestry include the New Jersey Shade Tree and Community Forestry Assistance Act, the Tree City Program and the New Jersey No Net Loss Reforestation Act.

## Status and Trends

DEP and its partner groups have planted over 10,000 shade trees in projects during 2000, 2001 and 2002. DEP's community forestry programs received special appropriation of $900,000 for fiscal years 2000, 2001, and 2002 to fund municipal tree planting projects, the preparation of urban tree management plans and program operational services.

According to USDA data[1], more of New Jersey's existing trees are located in urban areas (as opposed to rural areas) than any other state, with 22.3 percent of New Jersey's trees located in its urban areas[2] (Massachusetts is a distant second with 14.4 percent urban trees, followed by Connecticut at 14 percent and Maryland at 11.1 percent). New Jersey also leads the 20 northeastern states with 135 communities, home to 2.5 million residents, that have earned Tree City USA status. Tree City USA is sponsored by the National Arbor Day Foundation, US Forest Service and the National Association of State Foresters. It recognizes communities that have a comprehensive tree management program, and promotes tree planting and tree care.



In terms of street trees, there has been an increase of approximately 20,000 street trees per year from 1994 to 1999, from 2 million to 2.1 million. However, the percentage of trees in good health has decreased from 69 percent in 1994 to 34 percent in 1999 (the 2004 street tree assessment is currently being completed). Furthermore, 147 communities in New Jersey fall below the national average of having 32 percent of their streets planted with trees.

## Outlook and Implications

The expansion of urban and metropolitan areas in the New Jersey can have particularly important implications for the management and use of public lands including State parks and forests and other locally administered natural resources. Since urban residents frequently travel to exurban areas for outdoor recreation, the demands placed on forest ecosystems close to growing urban centers pose difficult challenges to natural resource managers. Intensive resource use, increased mobility or presence of potential hazards (e.g., invasive species, wildfire, tree insects and diseases), conflicts regarding recreational opportunities, and seasonal and permanent residential development can greatly complicate the issues that DEP and others will have to address to

protect the health and sustainability of these valuable urban forest areas.

Among the urban forestry issues DEP has identified as needing especial attention is urban forest health. Recent studies have revealed that the trees growing in New Jersey's cities and towns are under extreme stress and are not receiving the proper care they deserve. One of the factors that contributed to the recent decline was the 1999 drought. Insect and disease outbreaks (e.g., Asian long-horned beetle, and bacterial leaf scorch) that have affected some areas and types of trees also remain a threat. On the positive side, the assessment found that the single most influential factor in tree health is the existence of a shade tree commission, or a comparable civic tree care group. Towns with shade tree commissions not only have more street trees, but the trees are in better health than towns without commissions. DEP is working with local partners to encourage better stewardship of New Jersey's urban forest resources.

### *More Information*

The Community Forestry Program of the NJ Forest Service can provide further information on urban forestry issues at http://www.state.nj.us/dep/parksandforests.

### *References*

[1] General Technical Report PNW-GTR-490. USDA Forest Service. 2000. Report covers the 48 adjacent states.
[2] See General Technical Report, 2000.